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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
DESAL, ANISH P				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/521,465

Applicant(s)

IIJIMA ET AL.

Examiner

ANISH DESAI

Art Unit

1794

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-9 and 11-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9 and 11-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 06/18/08 have been fully considered. Support for amended claims is found in the specification as originally filed.
2. The 35 USC Section 112 second paragraph rejections to claims 19 and 22 are withdrawn in view of the present amendment and response.
3. The 35 USC Section 103(a) rejection based on Kawabata (JP 2000-338306 English translation previously provided) in view of Sautome (JP 57-174367-English translation provided by the Examiner) are maintained. However, the Examiner notes for the record that the basis for combining Sautome with Kawabata is changed in this Office Action, which was not necessitated by Applicant's amendment. Accordingly, this Office Action is made Non-Final.
4. The obviousness type double patenting rejections are maintained.

Claim Objections

5. Claims 27 and 28 are objected to because of the following informalities: both of these claims recite "to impregnate the antireflection layer with the adhesive". The recitation of "antireflection layer" should be replaced with "the high refractive index layer" in order for these claims to be consistent with independent claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 8, 9, 11-13, 16, 23, 24, 27, and 28 are rejected under 35 U.S.C.

103(a) as being unpatentable over Kawabata (Abstract and English translation of JP 2000-338306) in view of Saitome (English translation of JP 57-174367).

7. Regarding claims 1 and 9, Kawabata discloses an antireflection film for transfer comprising a support, an antireflection layer disposed on the support, and an adhesive layer on the antireflection layer, wherein the antireflection layer comprises a high refractive layer comprising metal oxide fine particles and the support is releasable from the antireflection layer (see abstract, 0001-0015, and Applicant's own submission regarding JP 2000-338306 found at paragraph 0006 of the Patent Application Publication of the presently claimed invention).

8. Moreover, regarding claim 9, Kawabata discloses a low refractive index layer disposed on the support and a high refractive index layer disposed on the low refractive index layer (abstract and Applicant's own submission regarding JP 2000-338306 found at paragraph 0006 of the Patent Application Publication of the presently claimed invention).

9. With respect to claims 1 and 9, the difference between the claimed invention and the prior art of Kawabata is that Kawabata is silent as to teaching the adhesive

containing a curable component and a cellulose resin including an ester bond, and the high refractive index layer is impregnated with a portion of the adhesive.

10. However, Sautome discloses an adhesive composition that is produced by adding a tackifier to a polymer composition produced by using a small amount of cellulose acetate butyrate (CAB) and/or cellulose acetate propionate (CAP) to which a monomer comprised primarily of methacrylic acid ester is added (see claim 1). Further, it is noted that Sautome discloses formation of adhesive composition (before polymerizing it) wherein the adhesive composition includes CAB and CAP and various monomers such as acrylic acid etc. (see Example 1). It is noted that Applicant has provided no particular composition associated with the "curable component" in the presently claimed invention other than merely requiring that the claimed invention contains "curable component". Therefore, the adhesive composition of Sautome (before polymerization) containing various monomers as set forth in for examples of Sautome is equated to "curable component".

11. The primary reference of Kawabata generally discloses that the adhesive of his invention can be formed of acrylic polymer wherein the adhesive layer is formed by coating an adhesive solution formed by diluting resins e.g. acrylic resin using water and an organic solvent on the metal oxide-coating layer (0012, page 11). However, Kawabata is silent as to teaching a particular adhesive solution. The secondary reference of Sautome provides a suitable adhesive composition solution that contains CAB or CAP in combination with a curable component.

12. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive solution of Sautome that comprises CAP or CAB in combination with a curable component as an adhesive layer in the invention of Kawabata, because Kawabata desires an adhesive coating to form his antireflection film and Sautome provides a suitable adhesive. Selection of a known material based on its suitability for its intended use establishes a *prima facie* case of obviousness.

13. As to the claim requirement of "the high refractive index layer is impregnated with a portion of the adhesive", it is reasonable to presume that said feature is necessarily present in the antireflection film of Kawabata as modified by Sautome.

14. Support for said presumption is based on the fact that antireflection films Applicant and the invention of Kawabata as modified by Sautome is formed using the same process and composition. It is respectfully submitted that Applicant applies a solution of the adhesive to the antireflection layer to impregnate the antireflection layer (high refractive index layer) with the adhesive (see claims 27 and 28). It is noted that Kawabata at page 11 paragraph 0012 and paragraph 0015 pages 14-15, discloses coating of acrylic adhesive solution onto the surface of the antireflection layer (high refractive index layer). Therefore, the aforementioned feature would have been present in the antireflection film of Kawabata as modified by Sautome. The burden is shifted to Applicant to prove it otherwise (*In re Fitzgerald*, 205 USPQ 594).

15. As to claims 5 and 13, it is noted that the Table 2 of Sautome discloses use of CAB and CAP in the amount of about 10 wt%. Regarding claim 8, paragraphs 0001 and 0002 is interpreted to read on claim 8.

16. Claims 6, 7, 14, 15, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Sautome (English translation of JP 57-174367) as applied to claims 1 and 9 above, and further in view of Yoshihara et al. (US 6,376,060 B1).

17. Kawabata is silent as to teaching claims 6, 7, 14, 15, 17, and 20.

18. However, Yoshihara discloses a hardcoat film and an antireflection film comprising an antireflection layer provided on the hardcoat. Additionally, Yoshihara discloses inorganic filler such as metal oxide particles having functional group that is introduced into at least a part of the inorganic filler (see column 8 lines 37-39 and Example B1). Further, Yoshihara discloses "Specific examples of preferred organic components having a polymerizable functional group...include polyfunctional acrylates...group." (column 9 lines 5-15). These passages read on a crosslinkable functional group upon irradiation with UV rays wherein the crosslinkable functional group is an unsaturated double bond as claimed.

19. It is noted that the primary reference of Kawabata discloses a high refractive index layer containing metal oxide particles. The reference of Yoshihara provides a metal oxide particles containing composition wherein the metal oxide particles are

functionalized (surface-treated) with a compound having unsaturated double bond as a crosslinkable functional group.

20. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hard coat composition of Yoshihara comprising metal oxide particles that are surface-treated with a compound having unsaturated double bond as a crosslinkable functional group, motivated by the desire to improve the strength and the flexibility of the high refractive index layer.

21. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Saotome (English translation of JP 57-174367) as applied to claims 1 and 9 above, and further in view of Furman et al. (US 2002/0013382A1).

22. Kawabata is silent as to teaching claims 18 and 21.

23. However, Furman discloses methods of functionalizing and functionalized metal oxide particles, and mechanically strong and transparent or translucent composites made with such particles. Further, according to Furman "The composites primarily are suitable for dental and medical restoration; however, optical resins for use in high refractive index application...and adhesive applications also are possible." (0002).

24. The metal oxide particles of Furman are functionalized (surface-treated) by silane adhesion promoters (0012) such as ethoxy vinyl silane [equated to Applicant's vinyl group containing silane coupling agent] (0045). As metal oxide particles, Furman discloses that any metal capable of forming an amphoteric metal oxide may be used to

Art Unit: 1794

form the metal oxide particles (0013). According to Furman "However, the hydroxyl groups that tend to form at the surface of metal oxide particles in "protic" environments tend to make the surface of the particles hydrophilic. As a result, the metal oxide particles have difficulty being wetted or adhered to by relatively hydrophobic matrix monomers such as acrylic monomers, which are non-polar or weakly polar in nature." (0005).

25. It is noted that the high refractive index layer of primary reference of Kawabata consists of metal oxide particles in acrylic resin (see abstract of Kawabata beginning at "a metal oxide-cong. [containing] layer is formed of the transfer material essentially consists of an acrylic resin and conductive metal oxide fine particles such as ITO...high refractive index" and claim 2).

26. Therefore, it would have been obvious to add the functionalized metal oxide particles of Furman, in the high-refractive index layer of Kawabata, because such functionalized metal oxide particles can be easily wetted or adhered by acrylic resin of the high refractive index layer of Kawabata such that a mechanically strong layer can be formed.

27. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Saotome (English translation of JP 57-174367) and Furman et al. (US 2002/0013382A1) as applied to claims 1, 9, 18, and 21 above, and further in view of Suzuki et al. (US 5,770,306).

28. Kawabata as modified by Sautome and Furman is silent as to teaching a cured antireflection film.

29. However, Suzuki discloses an antireflection film containing ultrafine particles formed of a resin composition having excellent dispersability of ultrafine particles in a binder resin of preventing, whitening (abstract). Further, at column 8 lines 5-25, Suzuki discloses a formation of cured antireflection film coating wherein the antireflection film coating containing metal oxide fine particles (see column 6 lines 35-50) and binder is irradiated with UV rays.

30. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to irradiate the antireflection film of Kawabata as modified by Sautome and Furman using UV rays, motivated by the desire to form a cured antireflection film.

31. As to the claimed requirement of "wherein the crosslinkable functional groups of the metal oxide fine particles are cross linked with the curable component of the adhesive"; it is respectfully submitted that Applicant has provided no limitations associated with the structure or the composition of the functional groups and/or the curable component. The antireflection film of Kawabata as modified by Sautome, Furman, and Suzuki as set forth above comprise an adhesive layer having a curable component and metal oxide fine particles having crosslinkable functional group. Further, the antireflection film of Kawabata as modified by Sautome, Furman, and Suzuki is cured. The antireflection film of Kawabata as modified by Sautome, Furman,

and Suzuki is structurally and compositionally equivalent to Applicant's antireflection film. Thus, the aforementioned claim requirement would be present.

32. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Sautome (English translation of JP 57-174367) and Yoshihara et al. (US 6,376,060 B1) as applied to claims 1, 9, 17, and 20 above, and further in view of Suzuki et al. (US 5,770,306).

33. Kawabata as modified by Sautome and Yoshihara is silent as to teaching cured antireflection film.

34. However, the invention of Suzuki is previously disclosed and it is incorporated here by reference.

35. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to irradiate the antireflection film of Kawabata as modified by Sautome and Yoshihara using UV rays, motivated by the desire to form a cured antireflection film.

36. As to the claimed requirement of "wherein the crosslinkable functional groups of the metal oxide fine particles are cross linked with the curable component of the adhesive"; it is again respectfully submitted that Applicant has provided no structure or composition of the functional groups and/or the curable component. The antireflection film of Kawabata as modified by Sautome, Yoshihara and Suzuki as set forth above comprise an adhesive layer having a curable component and metal oxide fine particles having crosslinkable functional group. Further, the antireflection film of Kawabata as

Art Unit: 1794

modified by Saitome, Yoshihara, and Suzuki is cured. The antireflection film of Kawabata as modified by Saitome, Yoshihara, and Suzuki is structurally and compositionally equivalent to Applicant's antireflection film. Thus, the aforementioned claim requirement would be present.

Double Patenting

37. Claims 1, 3-9 and 11-28 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of U.S. Patent No. 7,244,494B2. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-15 of the aforementioned US Patent encompass same subject matter as that of disclosed by claims 1, 3-9, and 11-28.

Response to Arguments

38. Applicant's arguments received on 09/18/08 have been considered but they are not found persuasive.

39. With respect to the 35 USC Section 103(a) rejections based on Kawabata (JP 2000-338306) in view of Sautome (JP 57-174367), on page 10 of 09/18/08 amendment, Applicant argues following:

It appears that the Office is of the belief that unreacted monomer species such as vinyl acetate and styrene may be present in the Sautome composition. Applicants submit that this is not correct. In fact, Sautome explicitly discloses an ethylene-ethylacrylate copolymer. The monomers disclosed in the English Abstract of Sautome, e.g., ethylacrylate, vinyl acetate, styrene etc., have been reacted to form the ethylene-ethylacrylate copolymer. Thus, the monomers are no longer present in unreacted form and there is otherwise no suggestion in the English Abstract of Sautome that the adhesive composition contain any curable component.

The above analysis is buttressed by the English Abstract of Sautome obtained from the Japanese Patent Office website (the English Abstract provided by the Office appears to have been obtained from Derwent). A copy of the JPO English Abstract is concurrently submitted herewith. It is readily evident that Sautome references a composition that is obtained by first polymerizing a mixture to form a polymer product then mixing the resulting product with an additive, e.g., a tackifier to form an adhesive composition. As shown by the JPO English Abstract of Sautome, the art relied on by the Office, at best, discloses an adhesive composition that has already undergone polymerization, e.g., has already been cured, and thus the combination of Sautome with Kawabata does not lead one of ordinary skill in the art to an antireflection film having an adhesive layer containing a curable component.

40. The Examiner respectfully disagrees, because as set forth in this Office Action, the basis for combining Sautome with Kawabata has been changed. Specifically, it is respectfully submitted that the Examiner is not incorporating the polymerized adhesive composition of Kawabata in Sautome; instead the Examiner is incorporating the adhesive solution of Kawabata that contains CAB or CAP with various curable monomers (e.g. acrylic monomers). Additionally, it is noted that Applicant has provided no particular composition associated with "curable component" in the presently claimed invention other than merely requiring that the claimed invention contains "curable component". Therefore, the adhesive composition of Sautome (before polymerization) containing various monomers as set forth in for examples of Sautome is equated to "curable component". Accordingly, Applicant's arguments are not found persuasive.

41. With respect to the claim requirement of "the high refractive index layer is impregnated with a portion of the adhesive", Applicant argues that "In contrast, as disclosed in the examples of the present application, an adhesive composition is applied in the form of a solvent solution such as a solution in methylethyle ketone may impregnate a film layer" (see page 12 of 09/18/08 amendment).

42. The Examiner respectfully disagrees, because Applicant's arguments are not commensurate in scope with the claimed invention. The presently claimed invention does not require any particular type of solvent as that of asserted by Applicant. Further, it is respectfully submitted that Applicant applies solution of the adhesive to the antireflection layer to impregnate the antireflection layer (high refractive index layer) with

the adhesive (see claims 27 and 28). It is noted that Kawabata at page 11 paragraph 0012 and paragraph 0015 pages 14-15, discloses coating of acrylic adhesive solution onto the surface of the antireflection layer (high refractive index layer). Therefore, the aforementioned feature would have been present in the antireflection film of Kawabata as modified by Sautome. The burden is shifted to Applicant to prove it otherwise (*In re Fitzgerald*, 205 USPQ 594).

43. It is noted that on page 12 of 09/18/08 amendment, Applicant argues following:

Moreover, even if the Office's characterization of the cited art were correct, which Applicants do not admit, the combination of Sautome with Kawabata does not lead one of skill in the art to the "impregnated" feature of the presently claimed invention. Kawabata fails to disclose particles or a particle-containing layer having voids. Instead, at best, Kawabata discloses a metal oxide having surfaces closed by the surrounding resin matrix. This absence of voids precludes penetration of the of the high refractive index layer by any adhesive layer alleged by the Office to be adjacent to the particle-containing layer.

Arguendo, even if Sautome discloses an adhesive-containing layer, such a layer cannot impregnate the metal oxide-containing layer described in Kawabata when the oxide-containing layer does not have penetrable voids.

44. The Examiner respectfully disagrees because the aforementioned arguments are not commensurate in scope with the claimed invention, because the presently claimed invention does not require presence of voids in a particle-containing layer. Accordingly, the art rejections are sustained.

Conclusion

45. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.
46. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571-272-1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
47. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
Examiner, Art Unit 1794

/Hai Vo/
Primary Examiner, Art Unit 1794